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EXAMINER

KOCH, GEORGE R

ART UNIT PAPER NUMBER

1734

DATE MAILED: 03/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/733,939

Applicant(s)

VAN DER STEUR, GUNNAR

Examiner

George R. Koch III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) 31-58 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29 and 30 is/are allowed.
- 6) ☒ Claim(s) 1-4, 12 and 14-28 is/are rejected.
- 7) ☒ Claim(s) 5-11 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/10/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group I, claims 1-30 in the reply filed on 1/7/2005 is acknowledged.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Reference number 51. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The abstract of the disclosure is objected to because it is longer than 25 lines. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-2, 12, and 23-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Ehinger (5,772,125).

Ehinger discloses an apparatus for isolating an electrostatic sprayer (see Figures 1) from an electrically grounded coating product distribution circuit (items 9, 10) connected thereto, the apparatus comprising an electrostatic sprayer carried by a maneuverable robot arm (item 4), the sprayer capable of spraying an electrically conductive coating passing in adjacent proximity product onto a workpiece thereby on command, said coating product being supplied from a source of supply through at least one said distribution circuit connected to said sprayer, said apparatus including therein, and carried by said robot arm (arm 4), an electrically insulative storage tank (item 6) for said coating product in valved fluid communication (by material changer 9 and connections 12 and 13) with said sprayer and connected to and positioned downstream from a length of electrically insulative supply conduit (the conduit between item 13 and item 6), said length of supply conduit connected to said distribution circuit (via quick

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connections 12 and 13) and carried by said robot arm and including means for cleaning a portion (the recited solvent reads on the cleaning means), including all, of said length of supply conduit, in situ, after filling of said storage tank with coating product and before spraying, such that substantially all of said conductive coating product is removed from said portion of supply conduit, thereby isolating said sprayer electrically from said distribution circuit (see columns 2-3).

As to claim 2, Ehinger discloses that the supply conduit (the unnumbered conduit between items 13 and 6) and the storage tank (item 6) are part of, i.e., form within, a unitary housing.

As to claim 12, Ehinger discloses that the supply tank includes a piston (see column 2, line 54).

As to claim 23, Ehinger discloses a high voltage generator (item 11) carried within said robot arm, said generator being supplied with low voltage via an isolated connector (i.e., regulatable or interruptable) from an external voltage source.

As to claim 24, Ehinger discloses that the spray apparatus includes multiple conduits (see column 2, lines 59-62) or distribution circuits, which are intended to enable coating material changes (the conduits connect to "coating material changing assembly 9"). Therefore, the conduits or circuits can optionally distribute coatings of different colors.

As to claim 25, Ehinger discloses that the preferred material is a water soluble paint (see column 2, line 8).

As to claim 26, Ehinger discloses that two of these spraying robots (called lateral sprayers) are intended to be used together, one for each side of an automobile (see column 5, lines 22-29) in an assembly line process (as described in the background of the invention, column 1). Therefore, Ehinger discloses an installation for coating a plurality of workpieces simultaneously, the installation including a plurality of the apparatus of claim 1 connected to a plurality of coating product distribution circuits.

As to claim 27 and 28, Ehinger is capable of coating automobiles.(and for the record, further discloses)

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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8. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ehinger as applied to claims 1 and 2 above, and further in view of Baba (US 4,779,804) and Rehman (US Patent 2002/0117110).

Ehinger discloses all of the limitations of claims 1 and 2. However, Ehinger does not disclose that the supply conduit or housing are made of polyacetal resin.

Baba discloses that it is known to utilize polyacetal resin to manufacture gun bodies (see column 4, lines 50-60). Rehman discloses that this material reduces electrical shock effects from stored capacitances, improving the safety of the device (paragraph 0061). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized such polyacetal resins for the gun housing and the conduit, both subcomponents of the gun body in Baba, in order to reduce electrical shock effects.

9. Claims 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ehinger as applied to claims 1 and 2 above, and further in view of Giroux (US Patent 5,092,126).

Ehinger discloses all of the limitations claims 1 and 2. However, Ehinger does not disclose that the supply conduit is tubular. Ehinger is generally silent as to the valving and supply conduit details. Thus, as to claim 15, Ehinger also does not disclose that means for cleaning said supply conduit includes a plunger positioned within said conduit and adapted to reciprocally traverse said length of said conduit. One in the art would immediately appreciate that with respect to these details,

As to claim 14 and 15, Giroux discloses a very similar apparatus (notice in Figure 2 that the spraying apparatus includes the conduit 11 and supply tank 64) wherein the supply conduit is tubular and the cleaning means further includes a plunger (item 14) positioned within said conduit and adapted to reciprocally traverse said length of said conduit. Giroux discloses that these structures enable the coating product to be changed extremely quickly and the time spraying is interrupted is reduced (see column 7, lines 37-43). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have included the supply conduit with plunger specific cleaning means as in Giroux in order improve change over time and reduce spraying interrupting time.

As to claim 16, Ehinger does not disclose that the plunger is made of a fluoroelastomer.

As to claim 17, Giroux as incorporated above discloses driving means (air supply 81) for driving said plunger reciprocally back-and-forth through said length of said conduit on command.

As to claim 18, Giroux as incorporated above discloses that the driving means comprises air under pressure controlled by valving (item 82).

As to claim 19, Giroux as incorporated above discloses a valve-controlled source of compressed air (item 81) connected thereto.

As to claim 20, Both Ehinger and Giroux disclose a valve-controlled source of solvent (Giroux, column 7, lines 21-36, and see also column 8, lines 50-52) connected to said distribution circuit.

As to claim 21, the apparatus of Ehinger and Giroux is capable of using a solvent such as water.

As to claim 22, the apparatus of Ehinger and Giroux is capable of using a solvent such as deionized water.

Allowable Subject Matter

10. Claims 5-11 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: With respect to claims 5-11, the prior art of record does not suggest that the containment and storage of the coating product prior to spraying are effected within a deformable membrane housed within the storage tank. With respect to claim 13, the prior art of record does not suggest that the containment and storage of coating product is effected within a balloon like chamber housed within said storage tank prior to spraying.

The use of membrane, bellows or bladder-like containments is known (see, for example, Yoshida, US Patent 6,164,561). However, these containments are housed in a separate storage tank and are not connected to supply conduit, in essence functioning as paint supply cartridges (see Figure 14 and columns 21-22, and especially column 22,

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lines 36-51, which discloses that the cartridges allow for the elimination of paint supply hoses or conduits, while the instant invention requires hoses/conduits).

12. Claims 29-30 are allowed.


13. The following is an examiner's statement of reasons for allowance: With regard to claims 29 and 30, Ehinger discloses many of the limitations of claim 29 (such as those in claim 1 and 2 - the spray applicator, the paint sources, the insulative storage tank). However, Ehinger does not disclose that the containment and storage of the paint prior to spraying are effected within a deformable membrane of a FEP elastomer. The use of membrane, bellows or bladder-like containments is known (see, for example, Yoshida, US Patent 6,164,561). However, these containments are housed in a separate storage tank and are not connected to supply conduit, in essence functioning as paint supply cartridges (see Figure 14 and columns 21-22, and especially column 22, lines 36-51, which discloses that the cartridges allow for the elimination of paint supply hoses or conduits, while the instant invention requires hoses/conduits).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (571) 272-1230. The examiner can normally be reached on M-Th 10-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



George R. Koch III
Patent Examiner
Art Unit 1734

GRK
3/1/2005